

(c) REMARKS

This application has been carefully reviewed in light of the final Office Action dated January 22, 2004. Claim 12 has been cancelled herein, without prejudice or disclaimer of subject matter and without conceding the correctness of the rejections thereof and its subject matter added to claim 1. Claims 1, 3, 5, 9-11 and 13 remain in the application, of which claim 1 is the sole independent claim.

Claims 1, 3, 5, 9, 12 and 13 stand rejected under 35 U.S.C. §103 over U.S. Patent No. 6,420,834 (Yamazaki) in view of Matsurra '413. Claims 10 and 11 stand rejected under 35 U.S.C. §103(a) over Yamazaki in view of Matsuura, and further in view of U.S. Patent No. 6,187,151 (Leiphart). Applicants respectfully traverse these rejections.

Initially, it should be noted that claim 12 has been added to claim 1 and claim 1 has been amended to require that the organic layer is formed applying a positive specific DC voltage of 10 V to 100 V to the anode without plasma generation and forming the layer with evaporated hole transport compound.

The specification clearly teaches that if voltage below 10 V is applied to the anode, no electron transfer significantly occurs which results in insufficient adhesion of the organic layer to the anode. If voltage over 100 V is applied, poor adhesion occurs because of oxidation and/or decomposition of the hole transport substance. The instant Examples show the criticality of applying 10-100 V. In the instant Comparative Examples no voltage is applied; i.e., less than 10 V, and poor results are found.

The Examiner argued that Applicants' allegation that Yamazaki changes the EL material, while Applicants do not change the evaporated material, was deemed not persuasive because the claims did not exclude applying a voltage to the evaporated

material. The claims have now been amended to limit the organic layer deposition to applying voltage to the anode; no step is permitted for applying voltage to the evaporated material. Therefore, Applicants' previous arguments regarding the adverse effects of charging the evaporated material are commensurate in scope with the claims.

If the hole transport material were negatively charged, as is possible in Yamazaki, then the positive charge on the anode would effectively cancel the charge of the hole transport material; such a neutral surface would then act as an insulator between the anode with a positive DC voltage applied thereto and later-applied negatively-charged hole transport material. Such an arrangement would deter successive formation, i.e., thickening, of the organic layer on the anode.

Instead, in the present invention, evaporated hole transport compound is solidified on the anode. Such solidified hole transport compound is positively charged due to electron withdrawal by the positively charged anode. Hole transport material can then be successively deposited on the solidified hole transport compound and tightly held due to the successive electron withdrawal effected by the positively charged anode and solidified hole transport material.

Yamazaki simply provides no guidance in achieving the method of the present invention. Yamazaki teaches negatively or positively charging EL material directly; the present invention requires the application of a positive DC voltage to an anode. None of the secondarily cited references remedy the above-noted deficiencies of Yamazaki.

Further, Yamazaki teaches in column 18, lines 60-65 that voltage applied is preferably 5 V or less to prevent hot carrier deterioration. However, an applied voltage less

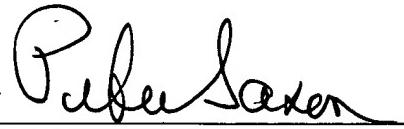
than 10 V in Applicants' process does not provide sufficient adhesion of the organic layer to the anode. Therefore, Yamazaki teaches away from applying voltages from 10 V to 100 V.

The Examiner argues that while Yamazaki is admittedly silent to the amount of voltage applied to the electrode, it would be obvious to optimize the voltages. However, this is merely a bald unsupported conclusion. Yamazaki, at best, merely provides an invitation to experiment to determine what voltages would succeed. Applicants have shown that lower or higher voltages than 10 - 100 V can defeat the present invention. The only disclosure of "magnitude" of voltage present in Yamazaki is a value too low for the present invention.

Based on the foregoing amendments and remarks, independent Claim 1 is believed to be allowable. The other rejected claims in the application are each dependent on this independent claim and are believed to be allowable for at least the same reason. Accordingly, favorable reconsideration and passage to issue of the present case is respectfully requested. Should the Examiner believe that issues remain outstanding, the Examiner is respectfully requested to contact Applicants' undersigned attorney in an effort to resolve such issues and advance the case to issue.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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